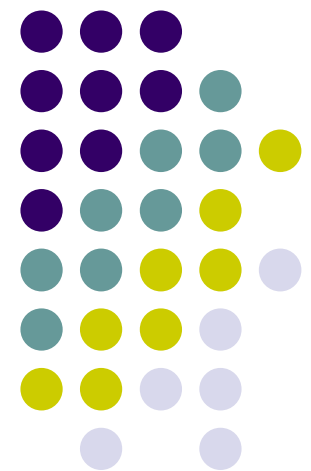


Update on Emission Reduction Plan for Ports and Goods Movement in California

Air Resources Board Meeting
April 26, 2007
Sacramento



Air Resources Board

California Environmental Protection Agency

Overview

- Highlights
- Context
- Regional focus
- Sector updates
- Funding

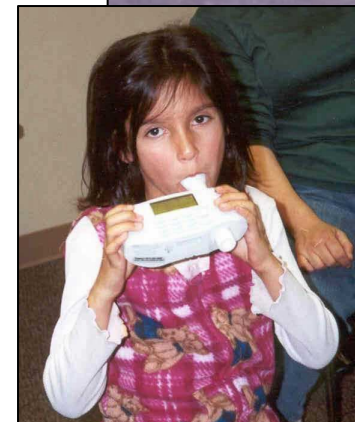
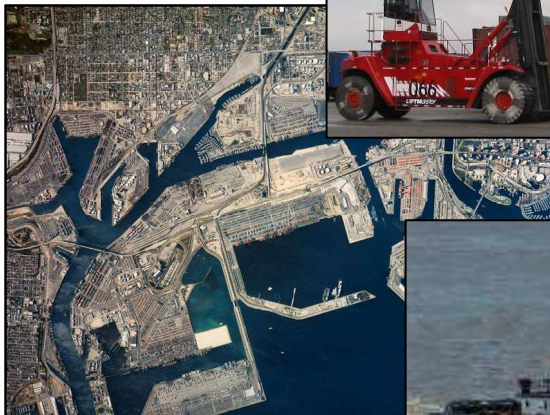
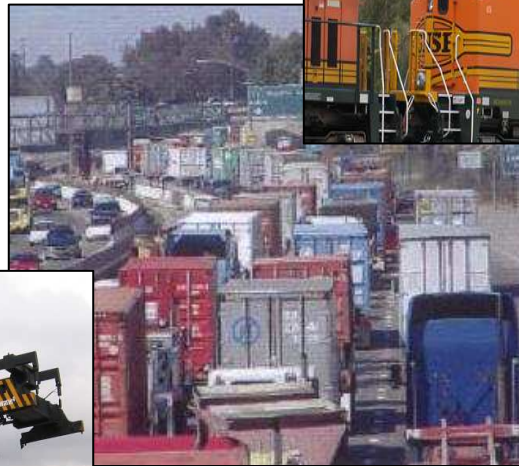
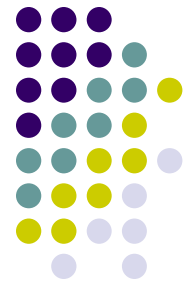
Highlights Since Nov 2006



- Implementation of new ARB rules
- Lawsuit against ARB ship fuel rule
- Final Goods Movement Action Plan
- Four drayage truck cleanup proposals
- US EPA proposals for locomotive and marine engines

Context

Goods Movement



Commodity Flows - Trucks



Commodity Flows - Rail



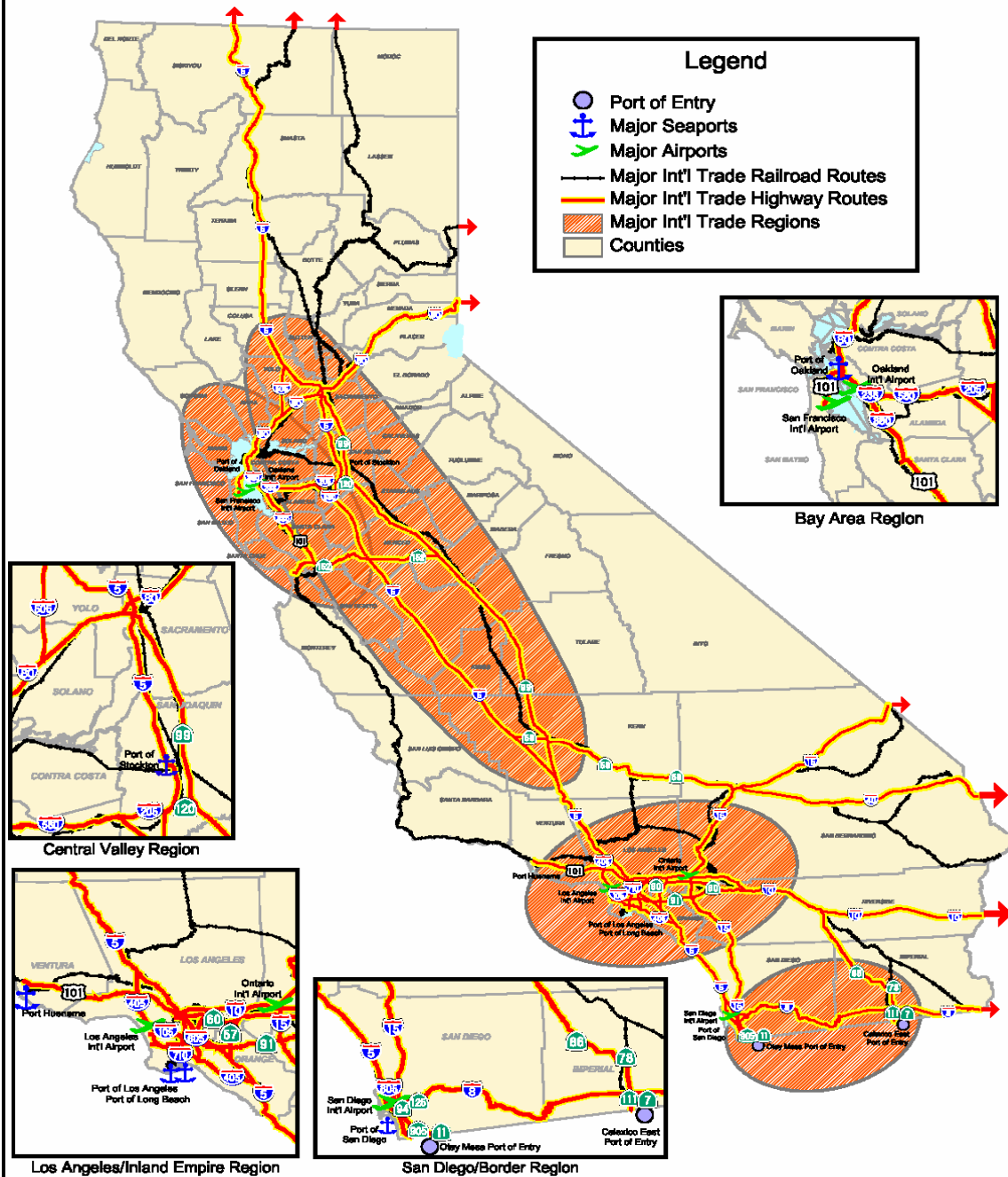
Board Goals



- Reverse growth in emissions
- Reduce diesel PM risk
 - Rapid reduction in community risk
 - By 2020, reduce statewide risk 85%
- Attain federal PM_{2.5} and ozone standards

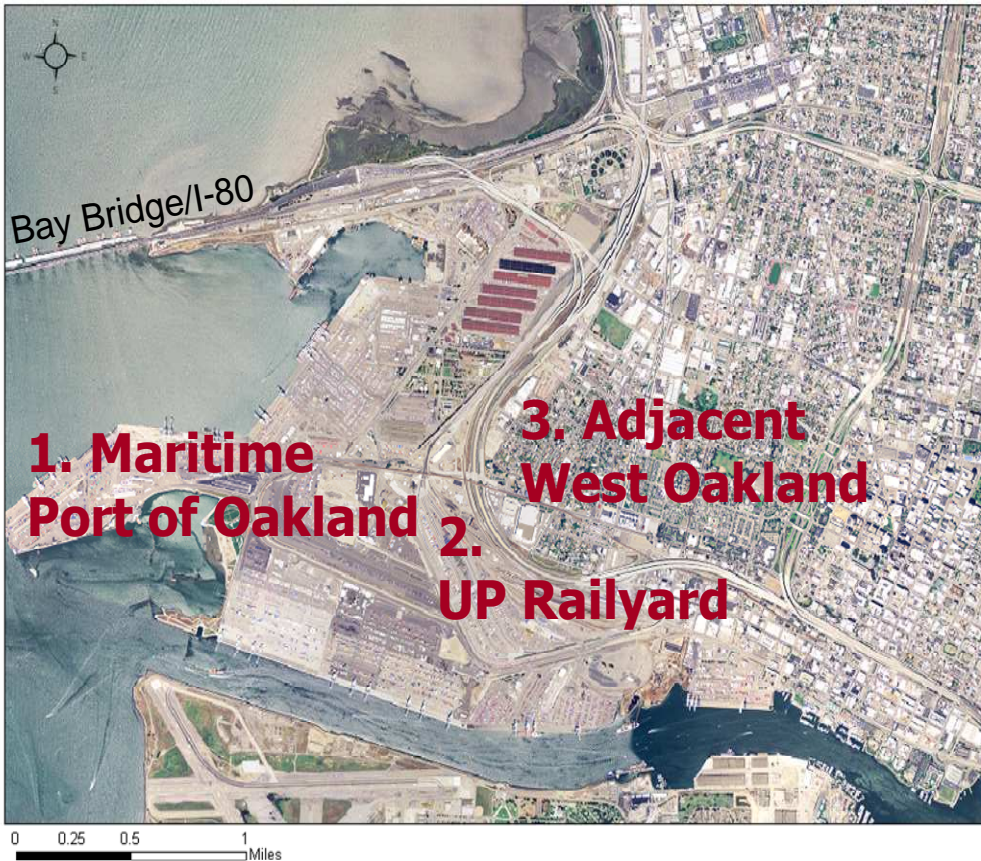


Priority Regions and Corridors in California



Regional Focus

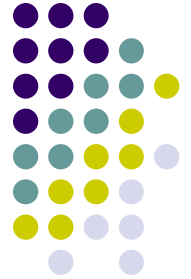
Northern California



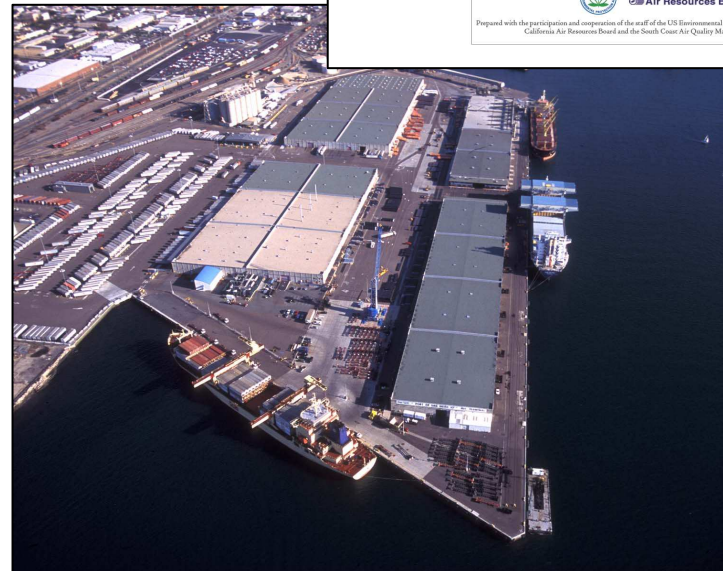
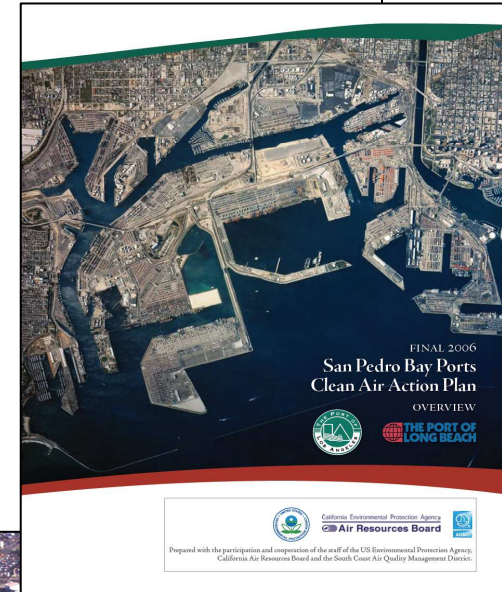
- Port of Oakland Maritime Air Quality Improvement Plan
- Bay Area District Green Ports Initiative
- San Joaquin Valley District proposals

*West Oakland Health
Risk Assessment*

Southern California



- Ports of LA/Long Beach – Clean Air Action Plan implementation and update
- South Coast District proposals
- Port of San Diego Clean Air Plan



Port of San Diego

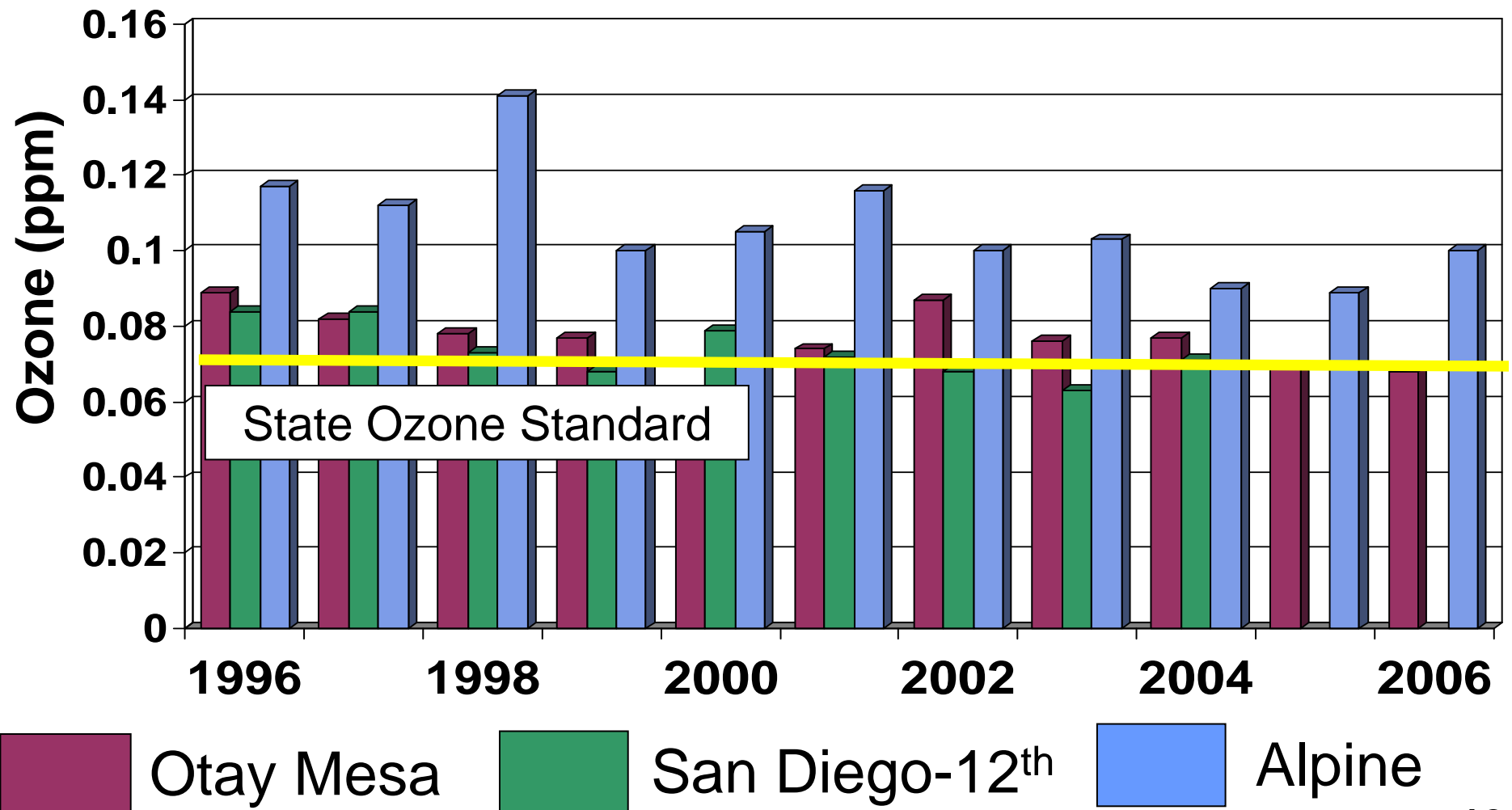
Focus on San Diego/Border Area



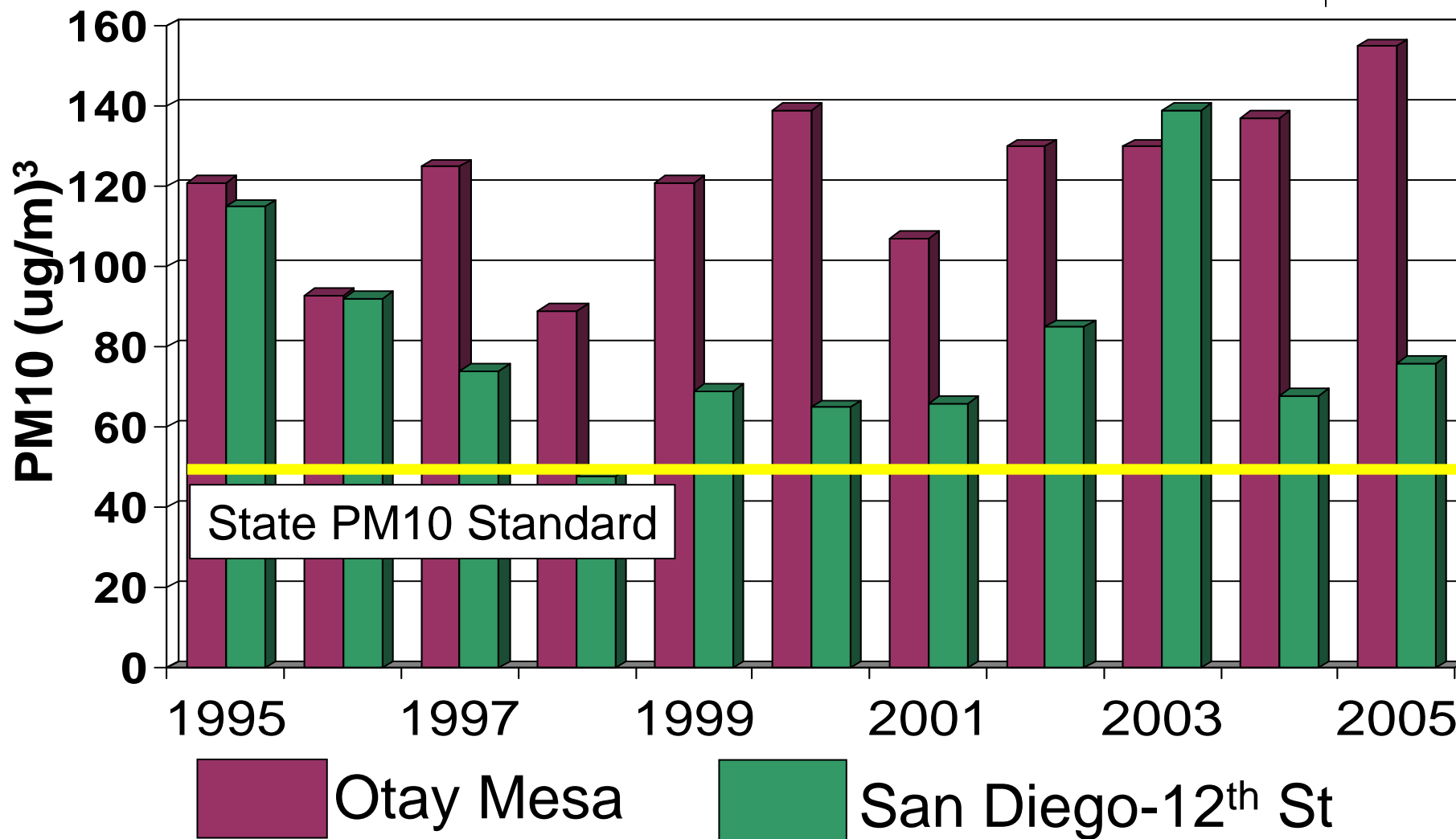
- Air quality
- Border crossings
- Reducing truck emissions
- Issues (NAFTA, megaport)



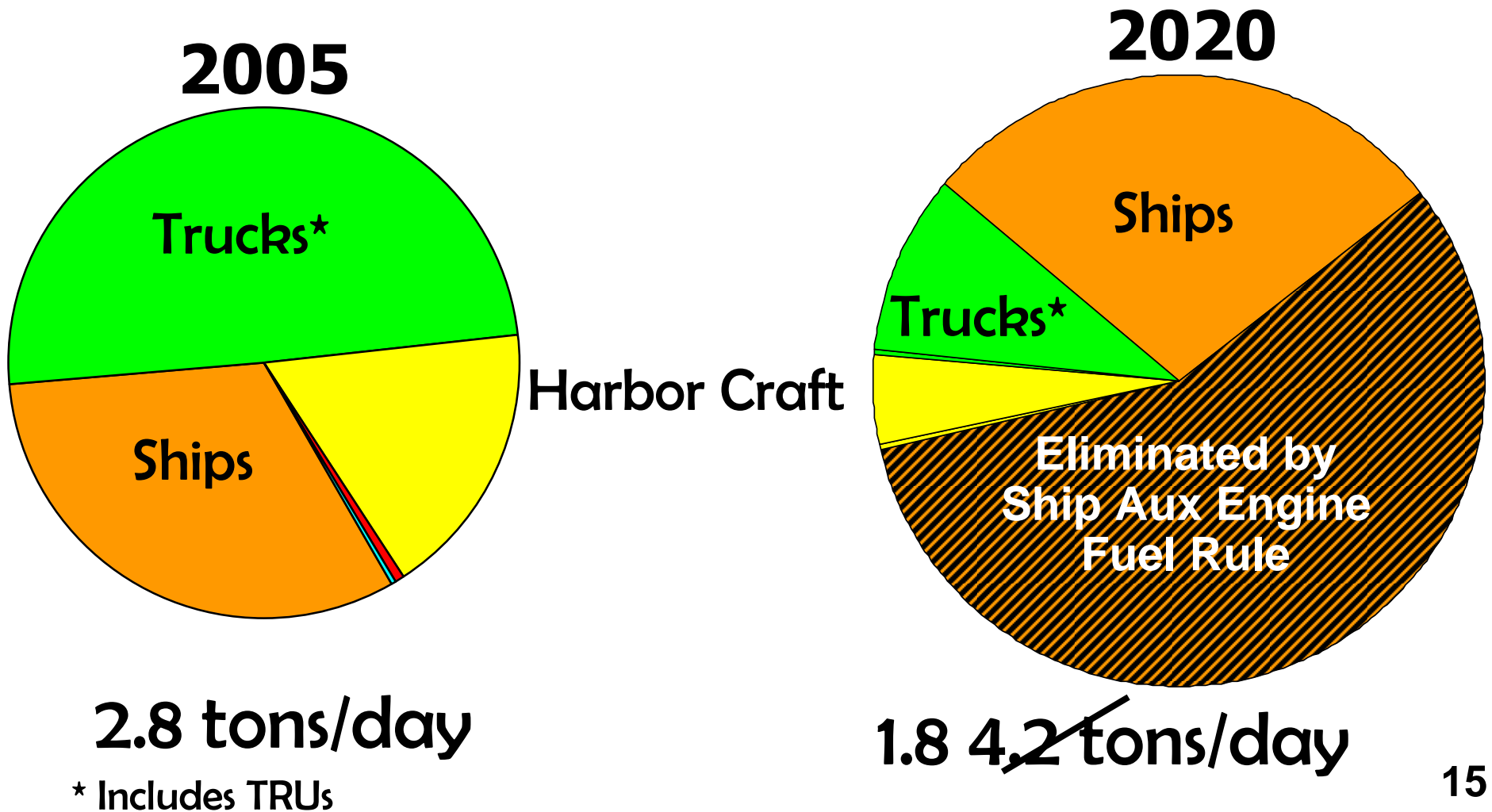
Maximum 8-Hour Ozone Level San Diego



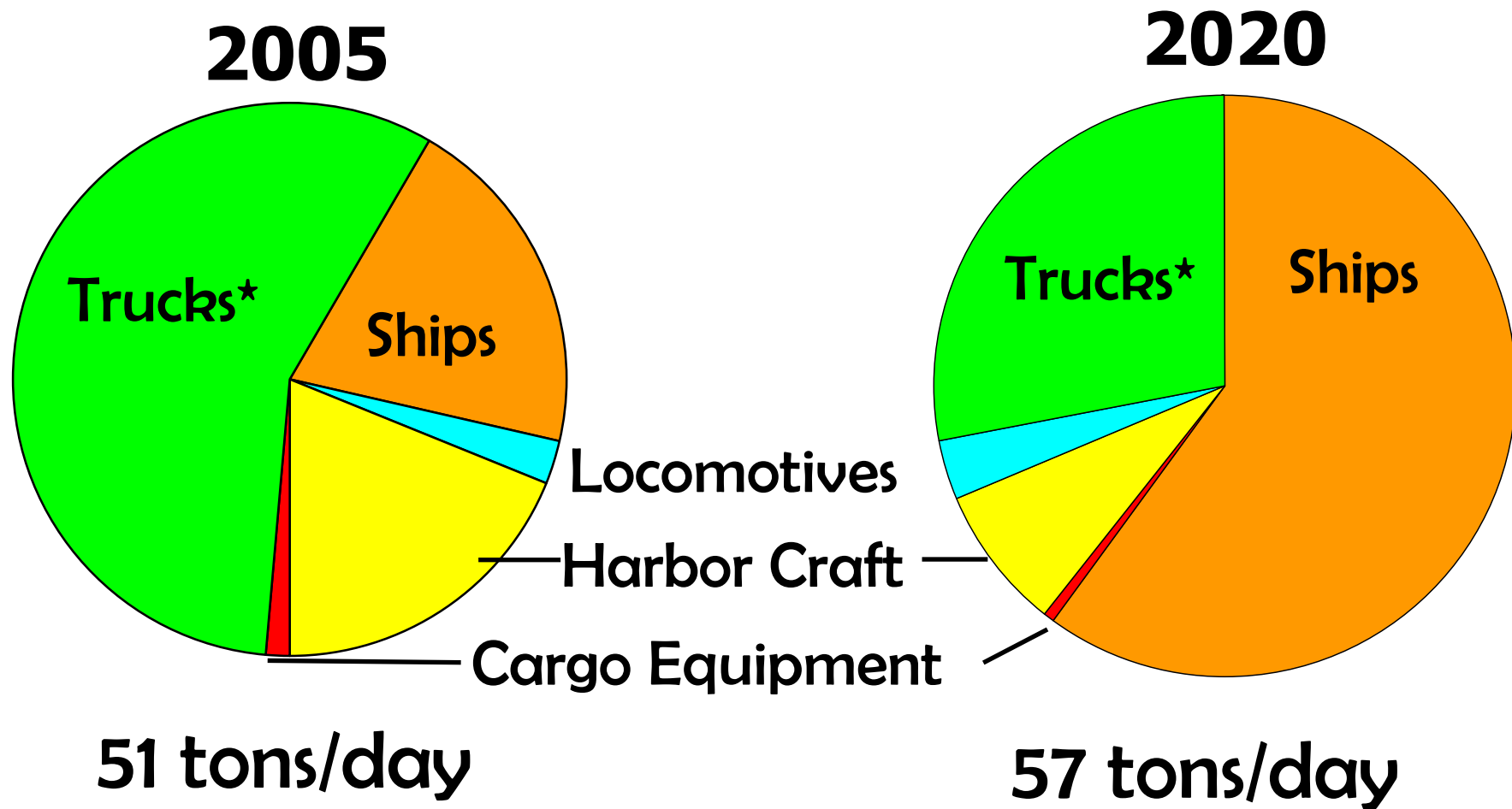
Maximum 24 Hour PM10 Levels San Diego



Goods Movement Emissions San Diego - Diesel PM



Goods Movement Emissions San Diego – NOx

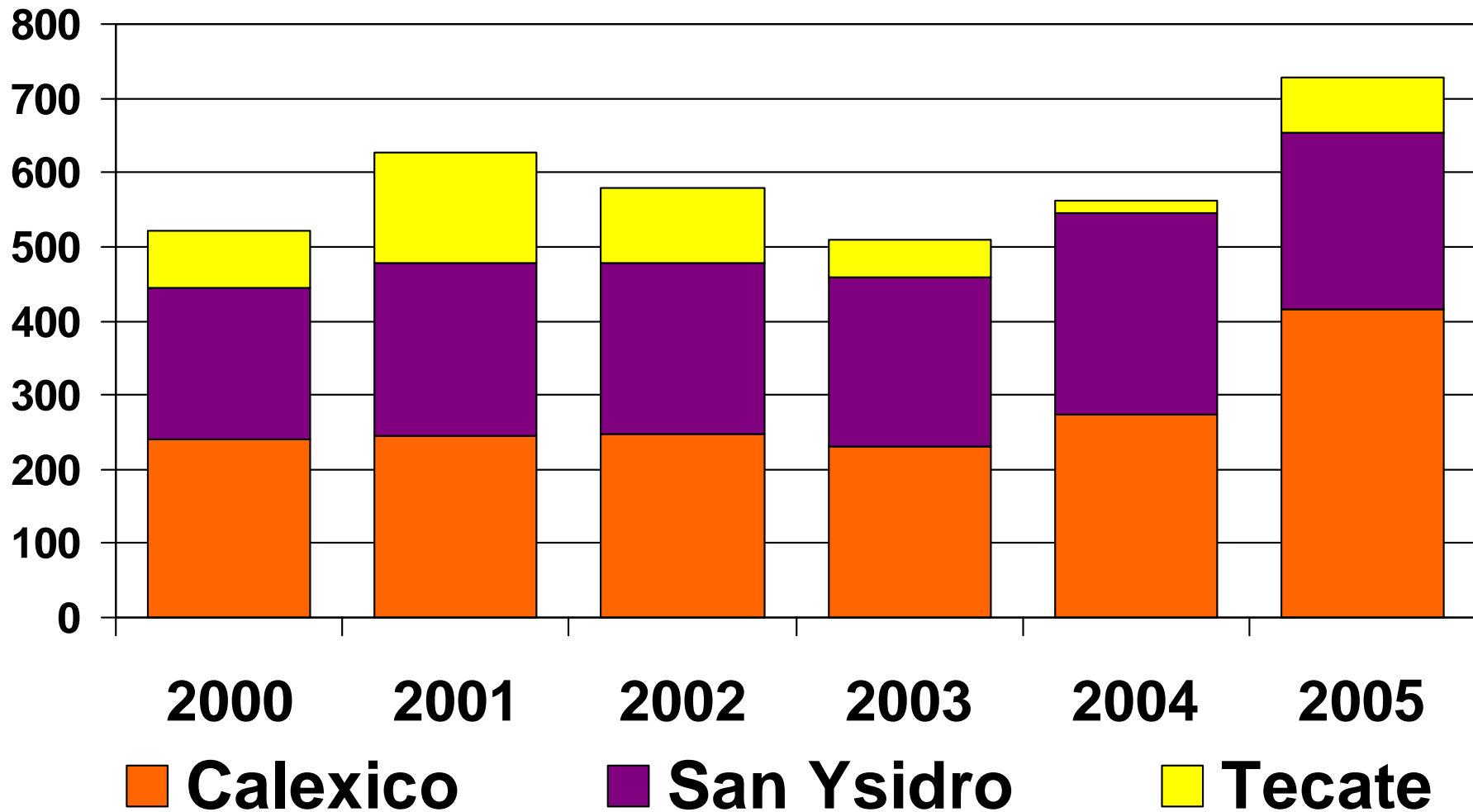


* Includes TRUs

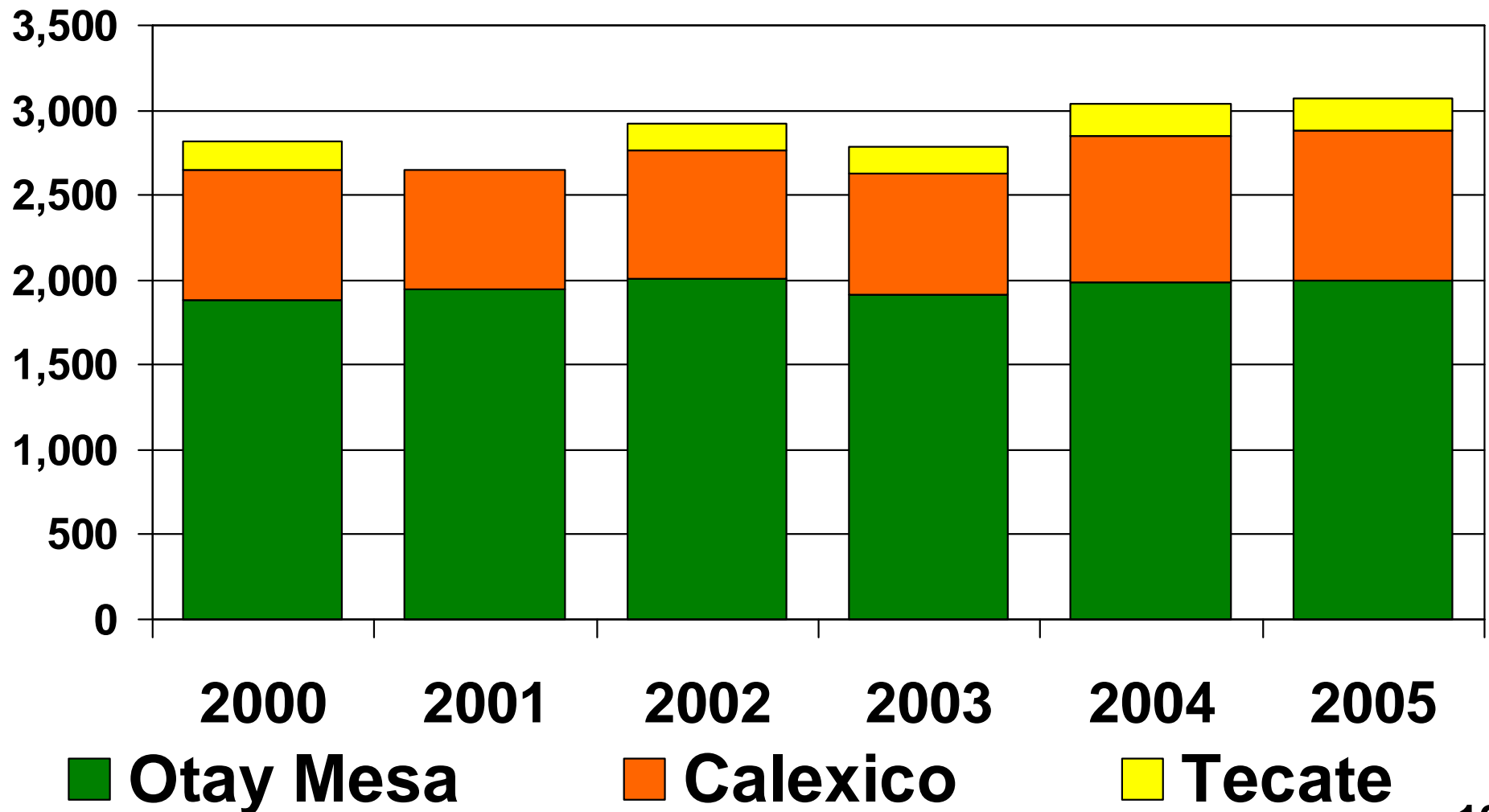
Border Ports of Entry



California-Mexico Border Train Crossings *per Year*



California-Mexico Border Truck Crossings *per Day*



Otay Mesa Truck Crossing



Average wait time is ~2 hours →
1/2 of truck emissions are from idling in queue

ARB Border Truck Survey

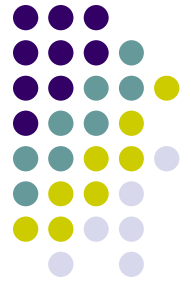
2006-2007



- 224 participating truckers (206 dual-plated)
- 80% travel to nearby distribution centers
- 45% fuel in Mexico, 25% fuel in CA, 30% do both

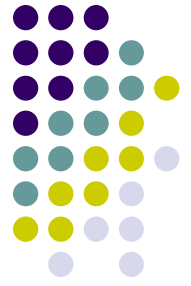


Mexico's Requirements



- Truck emission standards by model year
 - Pre-94: uncontrolled
 - MY 94-03: align with US
 - MY04 and later: Mexican standards stay at 2003 levels, US standards get more stringent
 - New Mexican trucks today: NO_x is 20x US, PM is 10x US standard
- Low sulfur fuel: phase in 2007-2009, starting in northern border area

California's Requirements that Apply to International Trucks



- No excess smoke or tampering
- Only trucks meeting US standards for that model year may operate in CA



Engine Labels



2,070 ARB truck inspections in border regions
in 2006: 300 violations (14.5%)

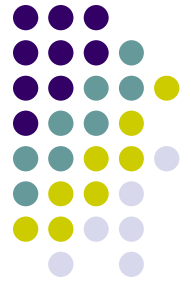
Reducing Border Truck Impacts



- Implementation of existing Mexican standards and alignment with US 2007/2010 standards
- ARB private truck fleets rule in development
- ARB truck inspections
- San Diego District/
US EPA truck retrofits
- Also needed: reduce wait time at border



North American Free Trade Agreement



- NAFTA will increase Mexican truck travel
- US DOT – Mexico Pilot Program
 - 100 Mexican + 100 US companies
 - One-year program to allow travel beyond the 20-mile border zone with international cargo
 - Safety audit by U.S. inspectors
 - Congressional proposal to put on hold
- ARB will monitor NAFTA implementation to characterize truck fleet and travel patterns

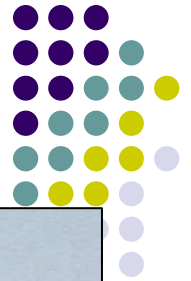
Proposed **Punta Colonet Megaport**

- 6M containers/yr by 2025
- Proposals now, awards this Fall
- Goal is to open in 2012
- Anticipates new rail line to U.S.
 - UP proposed line to Yuma, AZ



Sector Updates

ARB Truck Enforcement-2006



- Neighborhoods
- Ports
- Freeways
- Border



18,400 inspections: 1,930 violations (10.5%)
1,990 idling checks: 90 violations (4.5%)

Trucks



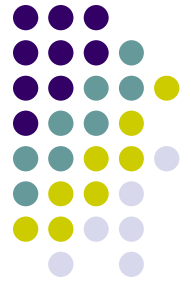
- ARB rule for private fleets
 - Non-CA trucks typically newer
 - CA trucks often slightly older & owner operated
 - ½ of trucks likely in small fleets (1-3 trucks)
- Challenges:
 - Timing/cost of truck replacements
 - Ability of small fleets to bear costs
- Board consideration in early 2008

Drayage Trucks



Drayage Trucks (1)

ARB Staff



- Set minimum standards for trucks that access ports/rail yards
- By 2011: phase out pre-1994 trucks; retrofit or replace 1994 and newer trucks
- By 2019: all trucks are 2007 and newer
- Challenges:
 - Defining roles and responsibilities
 - Economics of current business model
 - Coordination with other programs
- Board consideration in late 2007



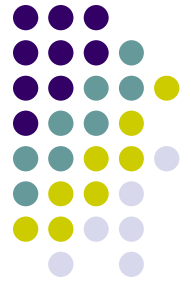
Drayage Trucks (2)

Coalition for Clean & Safe Ports

- Environmental, labor, faith-based, community and public health organizations
- Goals: clean air and good, stable jobs
- Ports set technology/efficiency standards
- Ports contract directly with motor carriers (airport concession model)
- Pursuing at LA, Long Beach, Oakland ports

Drayage Trucks (3)

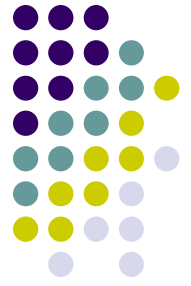
Ports of LA/Long Beach



- Transition to concessionaire model
 - Motor carriers own “clean” trucks
 - Employee drivers meet security standards
 - Impact fee for dirty trucks during transition
 - Gate fee for all trucks to fund infrastructure
- Progressively ban pre-1994 trucks; replace or retrofit 1994 and newer trucks
- Grants for truck replacement and retrofit
- Implementation beginning January 2008

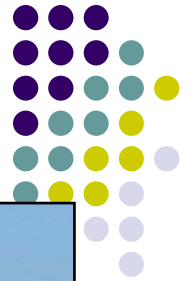
Drayage Trucks (4)

Industry



- Rail, Shippers, Retail, Waterfront Coalition
- ARB to set single statewide truck standard
- CA to ban older trucks from registering
- Terminal operators voluntarily impose fees on trucks not meeting ARB standard
- Fees support truck loans and leases
- CA to provide tax incentives

ARB Locomotive Inspections



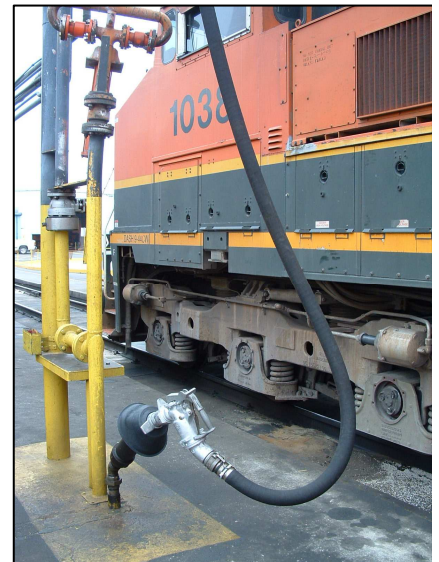
- **31 major rail yards**

1,320 locomotives inspected in 2006:
33 violations (2.5%)

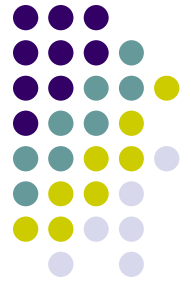
Locomotives



- Rail yard health risk assessments
 - First nine to be released Spring 2007
- Idle controls on 65% of intrastate locos
- 95% of fuel for line-hauls is now low sulfur
- Transition to cleaner switchers
- Technology demonstrations

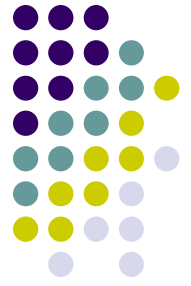


Locomotives



- March 2007 US EPA proposal
 - Rebuilds: >60% PM, >45% NOx (2010-2013)
 - Tier 3 new: 80% PM control, 60% NOx (2012)
 - Tier 4 new: ~95% PM control (2015), 90% NOx (2017)
- CA Needs
 - Earlier implementation for new builds/rebuilds
 - Tier 4 essential to allow accelerated introduction in CA prior to attainment dates

ARB Ship Fuel Inspections



Since January, 28 ships inspected and fuel analyzed for sulfur content: no violations

Ships and Harbor Craft



- Defense of ARB auxiliary engine fuel rule
- ARB rule development
 - Ship main engine fuel
 - At dock emission reductions (shore power)
 - Ship speed reduction
 - Harbor craft fleets
- Board consideration this year



Ships and Harbor Craft

US EPA National Standards



- March 2007 US EPA proposal
 - Ship auxiliary engines and harbor craft engines
 - Tier 3: 80% PM control, 70% NOx (2009-2014)
 - Tier 4: 95% PM control, 90% NOx (2014-2017)
 - No Tier 4 Standards for engines < 800 hp
- CA needs:
 - Tier 4 standards for smaller engines
 - Remanufacture standards for all engines

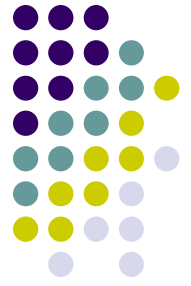
Ships

International Standards



- April 2007 US proposal to International Maritime Organization on PM, SO_x and NO_x emission standards for ships/fuels
 - Fuel: 1,000 ppm sulfur distillate fuel or alternative control (2011)
 - New ships: 20-30% NO_x control (2011); 85% NO_x control (2016)
 - Retrofit some ships: 20% NO_x control (2012)
- ARB supports US recommendations

Cargo Handling Equipment



- Implement ARB rule for ports/rail yards
 - Half of pre-2003 off-road yard trucks removed from every fleet by end of 2007
 - New yard trucks and other equipment meet 2007 on-road standards or equivalent off-road
 - Replacement/retrofit of other equipment begins



Funding

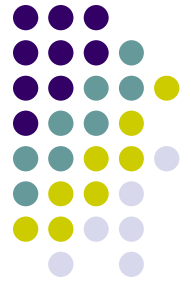


Funding

- Existing incentives continue
- \$1 billion from transportation bond
- Ports of LA/Long Beach proposal for tariffs
- Multiple legislative proposals on bonds/fees



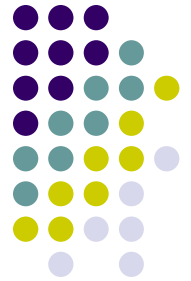
Example Candidates for Near-Term Incentives



- Truck replacement/retrofits
- New switcher & other locomotives
- Shore power infrastructure
- Harbor craft engine replacement



Goods Movement Action Plan Recommendations



- ARB should allocate \$1B in bond funds in the four priority corridors to:
 - Maximize emission reductions
 - Reduce community health risk
 - Provide early reductions
 - Implement ARB Emission Reduction Plan
 - Maximize matching funds
- Infrastructure projects should include mitigation cost and use green equipment

Bond Policy Issues



- Accountability and transparency
- Sustainable investments
- Continued California operation
- Co-funding levels
- Allocation across sources/regions





What's Next

- ARB rulemakings
- Port truck program(s)
- US emission standards
- Health risk assessments
- Legislation and staff proposal for bond program